Camp Navajo
Stakeholder Advisory Group (SAG)

Thursday, July 22, 2004
Arizona Game & Fish Department
3500 Lake Mary Drive
Flagstaff, AZ

Minutes

Members in attendance:
Christine Cooper, City of Flagstaff
Stacy Duffy, ADEQ
Shaula Hedwall, USFWS
Lee Luedeker, AGFD
LTC Pete Tosi, Camp Navajo
Randy Wilkinson, NGB

Members absent:
Alan Anderson, Coconino National Forest
Tom Britt, community member
Michele James, community member

Interested Parties
Dexter Albert, Intrinsic
Kim Harris, AMEC
John Kim, Brown & Caldwell
Christa Lewis, AZ ARNG Env Office
LT Sandy Mallach, AZ ARNG Env Office
Patsy Meehan, Brown & Caldwell
MAJ Bill Myer, NGB
Tom Parker, Camp Navajo
Marty Rozelle, The Rozelle Group
Abe Springer, NAU
Scott Veenstra, AMEC
Pam Wilkinson
Erin Young, NAU

The following acronyms may be used throughout this document

ADEMA	Arizona Department of Emergency and Military Affairs
ADEQ	Arizona Department of Environmental Quality
AGFD	Arizona Games & Fish Department
AZARNG	Arizona Army National Guard
BRAC	Base Realignment and Closure
CDC	Contained Detonation Chamber
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
FOASA	Former Open Air Storage Area
FSP	Final Sampling Plan
FWPDBA	Former White Phosphorous Detonation and Burn Area (Chemical Canyon)
IRP	Installation Restoration Program
MAP	Management Action Plan
MEC	Munitions and Explosives of Concern
MWP	Master Work Plan
NAAD	Navajo Army Depot
NAU	Northern Arizona University
NGB	National Guard Bureau
OB/OD	Open Burn/Open Detonation
ORS	Ordnance Related Scrap
ppb	parts per billion
QAPP	Quality Assurance Project Plan
RCRA	Resource Conservation and Recovery Act
RI/FS	Remedial Investigation/Feasibility Study
SAG	Stakeholder Advisory Group
SSHP	Site Safety and Health Plan
USACHPPM	U.S. Army Center for Health Promotion and Preventive Medicine

USFWS	U.S. Fish & Wildlife Service
UXO	Unexploded Ordnance
WMM	Waste Military Munitions

The following matters were discussed, recommended, and/or decided.

1. Welcome, Introductions and Announcements

- Christine Cooper, representing the City of Flagstaff, was unanimously accepted to replace Tom Scott.
- Duane Miller, community member, has resigned from the SAG. Lee Luedeker suggested that Glenn Morrison, Windmill Ranch, be considered to fill this position. Lee asked SAG members to submit additional names to him and Randy Wilkinson.
- LT Sandy Mallach has taken CPT Bill Fay's place. She is the Environmental Program Manager for ADEMA.
- Lee suggested that everyone bring something to the next meeting to send to CPT Fay, who is in Iraq. We will send him a package.
- The Grand Canyon Trust has re-ordered its priorities and Michele James is no longer with the organization. She will continue on the SAG as a community member.

Action: All SAG members and interested parties forward suggestions for the vacant community member position to Lee and Randy by September 15, 2004.

Action: New SAG members will receive an orientation

Action: Bring an item for a package for CPT Fay to the October SAG meeting.

2. Status of Action Items from April 8, 2004 SAG Meeting

- SAG membership formally accepted the new City of Flagstaff representative.
- Randy provided Shaula Hedwall and Michele James with responses to their comments on the Master Plan and the NAAD 03 (Volunteer Canyon) Work Plan.
- Randy posted the 2004 Owl Survey Work Plan and the Draft Surface Water and Groundwater Monitoring Work Plan and the Draft Risk Assessment Work Plan to the website.

3. *Frost Heave Study – Northern Arizona University*

Erin Young, a graduate student in the NAU Department of Geology, presented preliminary results of her research in "Frost Penetration Depth for Three Soil Types at Camp Navajo". This study will last two years.

Frost depth has not been defined quantitatively in the Flagstaff area, yet UXO clearance to frost depth is a potential cleanup goal. Frost heave results in ground displacements, so the potential exists for UXO's to surface due to frost heave. Frost penetration depth is defined as the movement of the freezing front into the ground during freezing. Soils don't necessarily freeze when their temperatures fall below 0degC. Quantification of the frost depth requires a good understanding of the heterogeneous nature of the subsurface and the thermal regime, including heat conductivity and moisture content. Silt, fine silty sand and clay have the greatest frost susceptibility**.** All of these soil types are found at Camp Navajo.

Frost heave is defined as the uplifting of the ground surface due to freezing of water within the soil in which the magnitude of heave exceeds that of water expansion. It is a fact that the number of frost-thaw cycles, rather than extreme temperatures, is more important to frost heave action.

The study areas are located at three sites south of the entrance to Camp Navajo where Volunteer Wash crosses the northern OB/OD Area boundary. Erin and her team are monitoring soil temperature at these sites which have distinct soil types. The first two locations occur within terraces adjacent to Volunteer Wash. A weather station is logging hourly temperature, humidity, wind speed, and solar radiation, parameters required for the modeling effort.

The Simultaneous Heat and Water Transfer model is used to simulate frost depth and soil temperature. Models can be used to predict conditions that are unobservable. In this case, Erin cannot measure frost depth in the field, but she can measure soil temperature. In addition, the model will be used to simulate climatic conditions, such as, colder/warmer and wetter/drier years. She can also use the model to determine which physical parameters, such as the site elevation, or vegetation, really control the frost depth.

Erin can calibrate the model to use site-specific information, such as soil temperature, grain size of soils, surface soil hydraulic conductivity, soil moisture, and weather station data. She can then verify how well the model simulates the soil temperature by direct comparison with field data.

First-year results show freezing temperatures to a depth of 30 cm. The maximum frost depth is 30.7 cm, and the maximum diurnal frost depth is about 12 cm. The draft report with results from the first year will be completed in mid-September. It will be available to the SAG for review and comment. Erin acknowledged the assistance of individuals with Camp Navajo, NGB, Brown & Caldwell, and NAU. Erin can be contacted by email at emy5@dana.ucc.nau.edu.

4. Overview of Risk Assessment Work Plan

MAJ Bill Myer provided an overview of the Human Health and Ecological Risk Assessment Work Plan for the OB/OD Program at Camp Navajo. Between January and July 2004, risk assessors from ADEQ, USFWS, USACHPPM, worked with the NGB to develop a risk assessment process for all OB/OD Area sites. They are in agreement as to how the NGB will evaluate risk to support site closure and/or clean up decisions for the OB/OD Area. The work plan was issued to NGB on July 16, 2004.

A conceptual site model for human and ecological exposures will be used. This conceptual model identifies potential sources of risk, such as disposal through burning and detonation of munitions; compounds of interest; exposure areas; and receptors. This model will allow the technical team to develop sampling plans so that they can provide current data for the risk assessment.

The purpose of the human health assessment is to characterize potential adverse health effects associated with potential exposure to contaminants. The four-step process includes: 1) hazard identification; 2) toxicity assessment; 3) exposure assessment; and 4) risk characterization. The purpose of the ecological risk assessment is to determine whether unacceptable risks are posed to potential ecological receptors. This assessment will be completed in two phases: ecological screening and ecological characterization. The first phase will determine if more detailed evaluation is necessary.

The risk assessment will provide remedial goal options (for residential and non-residential use) for contaminants of concern that do not pass the initial risk screening. Risk

assessments will be conducted for the NAAD 02 and 03 Soil RI/FS and for the NAAD 05, 08B, and 09D Open Burn Areas.

5. Program Updates

MAJ Myer provided updates on existing and future work efforts.

Contained Detonation Chamber
A contained detonation chamber has been on site since June 14, 2004. By the end of July the inventory of safe-to-move munitions will have been destroyed. These items could not have been destroyed this summer by open detonation due to the fire hazard with white phosphorous. A demonstration for the news media was held on June 24.

Footprint Reduction
Geophysical surveys have been finished for 51 miles of road. This effort includes numerous contractors and completion is expected by the end of August.

Projects
Building 322 - Demolition and removal action is under way.

Former Open Air Storage Area - A variety of 37 mm and .50 caliber projectiles were found. They were screened out and moved to the OB/OD Area.

NAAD 02 – RI/FS Work Plan is being finalized. Field work begins at the end of August.

NAAD 09C - Removal action is scheduled to start in September

NAAD 03 – RI/FS Work Plan is being prepared. Field work begins in September.

NAAD 05,08B, 09D - AMEC has been contracted to close these sites.

Surface and Ground-water Sampling – First sampling event begins week of August 9.

Supplemental Archive Search Report – Draft is expected soon.

Biological Evaluation of Cumulative Effects of all field activities for this year and next is under review and will be sent to USFWS in next few weeks.

Draft Cultural Resources Survey Report and Draft Cultural Resources Treatment Plan - currently under review by NGB. 600 acres have been surveyed.

Background Metals Report – under review by the NGB.

Removal Action Work Plan for NAAD 9C will be posted on the website by the end of July.

Draft Master Work Plan – has been approved and will be finalized by end of July.

IRP sites – Some of the IRP sites need long-term monitoring and two landfills need cap maintenance. Eight other sites in OB/OD Area will be under a performance-based contract for a performance period of 18 months. The bid request will go out soon. Eight sites are not part of RCRA permit. All OB/OD sites could be closed out in next three years

Hunting Season starts at the end of August. There is a change in that hunters will be allowed into the Metz Tank Area, which includes the Pyrotechnic Range. No UXO's have been found in the Metz Tank Area. Lee said that AGFD has one minor change – they

have issued 100 more permits than last year's hunt list. Lee and Randy will decide how many hunting flyers will be mailed this year. Most of the on-site hunters are Installation employees and reservists. They all go through an extensive briefing. If they do find a UXO they will know how to notify security.

Action: Randy and Lee will decide on number of hunter flyers to be mailed.

5. Status of Community Involvement Program

The July 22, 2004 SAG meeting was initially scheduled for the evening to give the public an opportunity to attend. Since the timing coincided with the public comment period for the proposed removal action for NAAD 09C or debris pile, the requisite public meeting for this action was held just prior to the SAG meeting. The public comment period is from July 12 – August 12, 2004. A newsletter announcing the meeting and updating readers on site activities was mailed to the OB/OD Area Closure Project mailing list. An advertisement and news article was published in the local newspaper and announced on the radio.

The Environmental Data Management System and website for the Administrative Record is being developed by AMEC. The public website will be ready this fall, to which the public, regulators, and project team will have various levels of access.

6. Call to the Public

No one from the public was present.

7. Future Meetings

The next SAG meeting is October 14, 2004 at Camp Navajo at 10:00 a.m.